

REMARKS

Reconsideration is respectfully requested.

The Examiner's rejections will be considered in the order of their occurrence in the Office Action.

Paragraph 1 of the Office Action

The drawings have been objected to.

Submitted under separate cover and addressed to the Examiner is applicant's proposed amendment of the drawing. Specifically, in Figure 4 of the drawings as originally filed, reference number "116" has been changed to "118" and reference number "112" has been changed to "116" in red ink.

In light of the proposed drawing amendment, it is therefore submitted that the objection to the drawings as originally filed has been overcome, and withdrawal of the objection to the drawings is respectfully requested.

Paragraphs 2 and 3 of the Office Action

Claim 1 has been rejected under 35 U.S.C. §112 (second paragraph) as being indefinite.

The above amendments to the claims are believed to clarify the requirements of the rejected claims, especially the particular points identified in the Office Action.

Withdrawal of the §112 rejection of claim 1 is therefore respectfully requested.

Paragraphs 4 through 7, 9 through 11 and 13 of the Office Action

Claims 1 through 6, 11 and 14 have been rejected under 35 U.S.C. §102(b) as being anticipated by Doberne (USPN 3,602,419).

Claim 7 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419).

Claim 10 has been rejected under 35 U.S.C. Section 103(a) as

being unpatentable over Doberne (USPN 3,602,419) as applied to claim 1 above, and further in view of Steigauf (USPN 4,519,536)).

Claim 12 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) as applied to claim 1 above, and further in view of York (USPN 4,030,654).

Claim 13 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) as applied to claim 1 above, and further in view of Dudeck (USPN 3,734,515).

Claim 17 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) in view of Gupta (USPN 4,139,137) and Steigauf (USPN 4,519,536).

Claims 2, 5, and 6 have been cancelled.

Claim 1, particularly as amended, requires "wherein the channel of the guide bushing has a substantially uniform diameter along a length of the guide bushing". This feature of the claimed invention, as clearly disclosed in Figure 2 of the drawings of the application, is submitted to provide a uniform interior guide surface not only for the drive punch but also the fastener to be driven.

The Doberne reference, as interpreted in the Office Action, teaches a sleeve member 18 that has two very different diameters, with one portion that is significantly larger than the other, and is significantly larger than the shank 27, which can permit significant lateral movement of the shank, especially when the sleeve member is fully extended away from the tool. It is submitted that these two very different, and non-uniform, diameters of the interior of the sleeve member 18 of Doberne would not lead one of ordinary skill in the art to the combination of features set forth in claim 1, and therefore that claim 1 is allowable over the prior art.

With respect to claim 3, the Office Action alleges that an

annular groove is formed in the bore 16 of the part 13 of the Doberne apparatus, but fails to point out where the annular groove is allegedly located. To the contrary, it is submitted that the element 16 of Doberne teaches a smooth, cylindrical bore in the part 13 that does not teach an annular groove. Clearly the smooth cylindrical surface of the part 13 does not receive the washer 40, which is relatively free to moves in the part 13 of the Doberne apparatus. It is submitted that one of ordinary skill in the art would not be led to "an annular groove formed in an interior surface of the bore" by the smooth cylindrical surface 16 of the part 13 of Doberne.

With respect to claim 7, which requires in part "a substantially frusta-conical intermediate part", it is noted that the sloping, frusta-conical contour makes it less likely that the shroud, which widens to accept the barrel portion of the hammer tool, will catch on environmental items about the object to be driven. The Doberne reference teaches stepped transitions that are more likely to catch on items positioned about the object to be driven.

Withdrawal of the §102(b) and §103(a) rejections of claims 1, 3, 4, 7, 10, 12, 13, and 17 is therefore respectfully requested.

Paragraph 8 of the Office Action

Claims 8 and 9 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) as applied to claim 1 above, and further in view of Gupta (USPN 4,139,137).

Claim 8 has been written into independent form and requires, in part, "a muffling means for muffling noise and vibration mounted on the shroud for mounting on the hammer tool with the shroud and removal from the hammer tool with the shroud". The claimed

muffling means, as disclosed in the specification at pages 11 through 12 and Figure 5 of the drawings, permits the vibration absorbing benefit of the muffling means to be employed on any hammer tool to which the adapter of the invention is attached, as the muffling means is carried on the shroud of the adapter.

Claim 9 as amended requires "an annular space being formed about the bore of the muffler member for extending about a barrel portion of the hammer tool when the shroud is mounted on the hammer tool" and "a muffling material for absorbing vibration being positioned in the annular space for extending about the barrel portion when the shroud is mounted on the hammer tool".

The Office Action appears incomplete as to which element or elements of the Gupta reference allegedly disclose the claimed features of claims 8 and 9 and allegedly suggest the combination of such feature with the Doberne reference. As such, applicant requests clarification in a future Office Action for the full basis of this rejection.

Withdrawal of the §103(a) rejection of claims 8 and 9 is therefore respectfully requested.

Paragraph 12 of the Office Action

Claims 15 through 16 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) as applied to claim 1 above, and further in view of Mizuno et al. (USPN 4,404,877).

Claim 15 has been written into independent form with no new requirements, and requires, in part, "a foremost end of the extender member having a forked configuration for receiving a portion of a fastener to position the fastener as it extends into the channel of the

guide bushing". This feature of the claimed invention permits apparatus of the invention to be moved laterally with respect to the fastener to engage the fastener without requiring the fastener to be inserted through a guide. As the sizes of the fasteners used with the invention will vary, the forked configuration is important to be able to adjust quickly and easily to the various shaft sizes of the fasteners to be driven.

The Mizuno reference teaches a power driven screw driver having a nose 21 with a flat bent portion 22. However, it is clear from the cross sectional showing of these elements in Figure 2 of the drawings of Mizuno, and from the following description at col. 6, lines 25 through 29, that a hole is formed in the flat bent portion 22 of Mizuno (with a closed edge that does not open to the edge of the flat bent portion), and a bushing or sleeve 27 is positioned in the closed hole.

When the motor-driven tool A is pushed on, the screwdriver bit C forces the tip of the screw S to pass through a bushing or sleeve 27 on the protective plate 22 and to be held against the workpiece M. The bushing 27 serves to prevent the screw S from being skewed or inclined while the screw S is being advanced toward the workpiece M.

It is submitted that one of ordinary skill in the art, considering the teaching of the Mizuno patent, would understand that the bushing or sleeve 27 of Mizuno does not have "a forked configuration" as required by applicant's claim 15, and would not lead one of ordinary skill in the art to the claimed structure as this would be incompatible with the mounting of the sleeve.

It is therefore submitted that the prior art, and especially the allegedly obvious combination of Doberne and Mizuno set forth in the rejection of the Office Action, would not lead one skilled in the art to the applicant's invention as required by claim 15. Further,

claim 16, which depends from claim 15, also includes the requirements discussed above and therefore are also submitted to be in condition for allowance.

Additionally, added claim 24 requires "wherein the forked configuration of the foremost end of the extender member includes a pair of converging edges in a concave configuration", which is disclosed in Figure 6 of the drawings of the application and which provides the benefits set forth above with respect to claim 15.

Withdrawal of the §103(a) rejection of claims 15 and 16 is therefore respectfully requested.

Paragraphs 14 and 15 of the Office Action

Claim 18 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) in view of Mizuno et al. (USPN 4,404,877 as applied to claim 15 above, and further in view of Dudek (USPN 3,734,515).

Claim 19 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Doberne (USPN 3,602,419) in view of Mizuno et al. (USPN 4,404,877 as applied to claim 15 above, and further in view of York (USPN 4,030,654).

Claims 18 and 19 have been cancelled, and therefore the §103(a) rejections of claims 18 and 19 are submitted to be moot.

Added claims

Added claim 20 require "wherein the uniform diameter of the channel of the guide bushing is slightly larger than a diameter of the forward end of the drive punch". This feature of the invention, clearly shown in Figure 2 of the drawings, permits the drive punch to remain in a close relationship with all portions of the channel of the guide bushing, and thus minimizes relative lateral movement of

the drive punch with respect to the guide bushing, and also to minimize the possibility of the drive punch and the guide bushing becoming misaligned.

Added claim 21 requires "wherein the shroud and the slidable guide bushing have an overall length, a length of the slidable guide bushing comprising approximately one-third of the overall length of the shroud and guide bushing". This relationship, clearly evident from Figure 1 of the drawings of the application, minimizes the portion of the adapter that is able to move so that for the most part only the portion of the adapter that extends beyond the end of the drive punch is able to move. Thus, only the portion that needs to move actually moves, and this minimizes the amount of the adapter that must be biased by the biasing means.

Added claim 22 requires "wherein the forward end of the drive punch terminates at a forwardmost end of the front portion of the shroud". Similar to claim 21, this claimed relationship positions the drive punch so that it does not extend past the non-moving shroud and thereby reduces the chance of injury due to the forward end of the drive punch being unintentionally exposed to strike the surface rather than the object extending into the channel of the guide bushing.

Added claim 23 requires "wherein the forward end of the drive punch extends into the channel of the guide bushing when the slidable guide bushing is fully extended from the shroud". This relationship facilitates alignment of the drive punch and the channel of the guide bushing at all positions of the drive punch with respect to the guide bushing. Note the Doberne reference, where the shank is short enough that it could easily wander from the bore 20 of the sleeve member 18.

VERSION WITH MARKINGS TO SHOW CHANGES MADE:

In the Claims (bracketed parts deleted and underline parts added):

1. (Amended) An adapter for converting a hammer tool into a multiple-impact object driving tool, the hammer tool having a housing with a barrel portion including a rear section and a nose section, a passage extending through the barrel portion with an opening in the nose section extending into the passage, the hammer tool having a reciprocating impact member being positioned in the passage, the adapter comprising:

a shroud for removably mounting on [the] a hammer tool, the shroud having a forward end and a rearward end, a bore being formed through the upper shroud between the forward and rearward ends, the shroud having a rear portion located at the rearward end of the shroud for removably receiving a portion of the hammer device, the shroud having a front portion located forward of the rear portion;

a drive punch positioned in the bore of the shroud with a rear section for being impacted by the reciprocating impact member of the hammer tool and a forward end for impacting an object to be driven; and

a guide bushing extending forwardly from the shroud, the guide bushing having a forward end and a rearward end, a channel extending through the guide bushing between the forward and rearward ends for receiving a portion of the object to be driven, the guide bushing being slidably mounted on the front portion of the shroud such that the guide bushing is movable between an extended position and a retracted position;

wherein the channel of the guide bushing has a substantially uniform diameter along a length of the guide bushing.

Cancel claim 2.

3. (Amended) The adapter of claim 1 additionally comprising an annular groove formed in an interior surface of the bore of the shroud, and a securing ring removably mounted in annular groove in the bore for holding the securing ring in a stationary position on the shroud.

4. (Pending) The adapter of claim 1 additionally comprising a biasing means for biasing the guide bushing into an extended position with respect to the shroud.

Cancel claims 5 and 6.

7. (Pending) The adapter of claim 1 wherein the shroud has an outer surface, the outer surface of the shroud having a substantially cylindrical front part, a substantially frusta-conical intermediate part, and a substantially cylindrical rear part, a diameter of the rear part of the outer surface being relatively larger than a diameter of the front part of the outer surface.

8. (Amended) [The] An adapter [of claim 1 additionally] for converting a hammer tool into a multiple-impact object driving tool, the hammer tool having a housing with a barrel portion including a rear section and a nose section, a passage extending through the barrel portion with an opening in the nose section extending into the passage, the hammer tool having a reciprocating impact member being positioned in the passage, the adapter comprising:
a shroud for removably mounting on a hammer tool, the shroud having a forward end and a rearward end, a bore being formed through the upper shroud between the forward and rearward ends, the shroud having a rear portion located at the rearward end of the shroud for removably receiving a portion of the

hammer device, the shroud having a front portion located forward of the rear portion;
a drive punch positioned in the bore of the shroud with a rear section for being impacted by the reciprocating impact member of the hammer tool and a forward end for impacting an object to be driven;
a guide bushing extending forwardly from the shroud, the guide bushing having a forward end and a rearward end, a channel extending through the guide bushing between the forward and rearward ends for receiving a portion of the object to be driven, the guide bushing being slidably mounted on the front portion of the shroud such that the guide bushing is movable between an extended position and a retracted position; and
a muffling means for muffling noise and vibration mounted on the shroud for mounting on the hammer tool with the shroud and removal from the hammer tool with the shroud.

9. (Amended) The adapter of claim 8 wherein the muffling means comprising a muffler member mounted on the rear portion of the shroud, the muffler member having a bore in communication with the bore of the shroud, an annular space being formed about the bore of the muffler member for extending about a barrel portion of the hammer tool when the shroud is mounted on the hammer tool, and a muffling material for absorbing vibration being positioned in the annular space for [absorbing vibration] extending about the barrel portion when the shroud is mounted on the hammer tool.

10. (Pending) The adapter of claim 1 additionally comprising a magnetic member mounted on the guide bushing for facilitating holding of an object to be driven in the guide bushing.

11. (Pending) The adapter of claim 1 wherein the rear portion

of the shroud includes retaining means for retaining the shroud on the nose of the hammer tool.

12. (Pending) The adapter of claim 11 wherein the retaining means includes:

a longitudinal slit formed in the rear portion of the shroud and extending from the rearward end of the shroud toward the forward end; and

a pair of retaining tabs, each of the retaining tabs being mounted on the rear portion on a side of the longitudinal slit such that the retaining tabs are located on opposite sides of the longitudinal slit; and

a fastener for constricting the longitudinal slit by pulling the retaining tabs toward each other.

13. (Pending) The adapter of claim 11 wherein the retaining means includes:

a recess formed in the rear portion of the shroud, the recess extending between the bore of the shroud and an exterior of the shroud;

a locking ball positioned in the recess and being movable in the recess between a locked position in which the locking ball extends into the bore for engaging an exterior of a nose section of the hammer tool, and an unlocked position in which the locking ball is substantially completely retracted into the recess;

a lever movably positioned in the recess, the lever having a locked position in which the lever presses the locking ball into the locked position and an unlocked position in which the lever permits the locking ball to retract into the recess.

14. (Amended) The adapter of claim 1 wherein an interior surface of the bore at the rear portion has interior threads formed

thereon for threadedly engaging [exterior threads] a helical groove on an exterior of a nose of the barrel portion of the hammer tool provided for accepting a retainer spring, and wherein peaks of the interior threads are semicircular in cross-section for engaging the helical groove on the hammer tool.

15. (Amended) [The] An adapter [of claim 1 additionally] for converting a hammer tool into a multiple-impact object driving tool, the hammer tool having a housing with a barrel portion including a rear section and a nose section, a passage extending through the barrel portion with an opening in the nose section extending into the passage, the hammer tool having a reciprocating impact member being positioned in the passage, the adapter comprising:

a shroud for removably mounting on a hammer tool, the shroud having a forward end and a rearward end, a bore being formed through the upper shroud between the forward and rearward ends, the shroud having a rear portion located at the rearward end of the shroud for removably receiving a portion of the hammer device, the shroud having a front portion located forward of the rear portion;

a drive punch positioned in the bore of the shroud with a rear section for being impacted by the reciprocating impact member of the hammer tool and a forward end for impacting an object to be driven;

a guide bushing extending forwardly from the shroud, the guide bushing having a forward end and a rearward end, a channel extending through the guide bushing between the forward and rearward ends for receiving a portion of the object to be driven, the guide bushing being slidably mounted on the front portion of the shroud such that the guide bushing is movable between an extended position and a retracted position; and

an extender assembly removably mounted on the shroud, the extender assembly including a collar extending about the shroud and an extender member pivotally mounted on the collar and extending forwardly past the forward end of the shroud and the forward end of the guide bushing, a foremost end of the extender member having a forked configuration for receiving a portion of a fastener to position the fastener as it extends into the channel of the guide bushing.

16. (Pending) The adapter of claim 15 wherein the extender member comprises has two telescopic portions permitting adjustment of the amount of forward extension of the foremost end of the extender member.

17. (Pending) A multiple impact object driving system comprising:

a hammer tool for impacting an object, the hammer tool having a housing, the housing including a handle portion and a barrel portion mounted on the handle portion, the barrel portion having a rear section and a nose section, an outer surface of the nose section having a plurality of mounting threads, a passage extending through the barrel portion, an opening in the nose section extending into the passage, a reciprocating impact member being positioned in the passage; and

an adapter for converting a hammer tool into a multiple-impact object driving tool, the adapter being adapted for holding an object during the multiple impacts, the adapter comprising:

a shroud for removably mounting on the nose of the hammer tool, the shroud having a forward end and a rearward end, a bore being formed through the upper shroud between the forward and rearward ends;

the shroud having a rear portion removably mounted on the

nose of the hammer device, the rear portion being located at the rearward end of the shroud, an interior surface of the bore at the rear portion having interior threads formed thereon for threadedly engaging exterior threads on the nose of the hammer tool; an annular interior shoulder being formed in the bore of the rear portion of the shroud; the shroud having a front portion located forward of the rear portion and at the forward end of the shroud; a lip formed on the shroud and extending inwardly into the bore, the lip being located adjacent to the forward end of the front portion of the shroud; a guide bushing extending forwardly from the shroud, the guide bushing being slidably mounted on the front portion of the shroud, the guide bushing having a forward end and a rearward end, a channel extending through the guide bushing between the forward and rearward ends; an annular flange on the guide bushing for retaining the guide bushing on the shroud, the annular flange being mounted on the rearward end of the guide bushing, the annular flange extending radially outward from the guide bushing; a securing ring removably mounted in the bore, the securing ring being positioned in the bore substantially adjacent to a juncture of the front and rear portions of the shroud, an annular groove formed in an interior surface of the bore for receiving the securing ring in a manner preventing movement of the securing ring in the bore, the securing ring having an interior perimeter relatively smaller than a diameter of the bore in the shroud; a ring member being positioned in the bore adjacent to the

annular interior shoulder of the rear portion for abutting the nose section of the hammer tool;

a biasing means for biasing the guide bushing into an extended position with respect to the shroud, the biasing means comprising a compression spring positioned in the bore, the compression spring being located between the securing ring and the guide bushing for pushing the guide bushing away from the securing ring;

a drive punch positioned in the bore of the shroud, the drive punch having a rear section for being impacted by the reciprocating impact member of the hammer tool, the drive punch having a front section with a forward end for impacting an object to be driven, an annular punch flange extending radially outwardly from the drive punch, the punch flange being positioned generally between the front and rear sections of the drive punch, the punch flange being positioned adjacent to the securing ring;

wherein the shroud has an outer surface, the outer surface of the shroud having a substantially cylindrical front part, a substantially frusta-conical intermediate part, and a substantially cylindrical rear part, a diameter of the rear part of the outer surface being relatively larger than a diameter of the front part of the outer surface;

a muffling means for muffling noise and vibration, the muffling means comprising a muffler member mounted on the rear portion of the shroud, the muffler member having a bore in communication with the bore of the shroud, an annular space being formed about the bore of the muffler member, and a muffling material positioned in the annular space for absorbing vibration;

a magnetic member mounted on the guide bushing for facilitating

holding of an object to be driven in the bushing, the magnetic member being located toward a front end of the guide bushing; and
retaining means on the rear portion of the shroud for retaining the shroud on the nose of the hammer tool.

Cancel claims 18 and 19.

Please add the following claims:

20. (Added) The adapter of claim 1 wherein the uniform diameter of the channel of the guide bushing is slightly larger than a diameter of the forward end of the drive punch.

21. (Added) The adapter of claim 1 wherein the shroud and the slidable guide bushing have an overall length, a length of the slidable guide bushing comprising approximately one-third of the overall length of the shroud and guide bushing.

22. (Added) The adapter of claim 1 wherein the forward end of the drive punch terminates at a forwardmost end of the front portion of the shroud.

23. (Added) The adapter of claim 1 wherein the forward end of the drive punch extends into the channel of the guide bushing when the slidable guide bushing is fully extended from the shroud.

24. (Added) The adapter of claim 15 wherein the forked configuration of the foremost end of the extender member includes a pair of converging edges in a concave configuration.

25. (Added) The adapter of claim 17 wherein the channel of the guide bushing has a substantially uniform diameter along a length of the guide bushing;

wherein the uniform diameter of the channel of the guide bushing is slightly larger than a diameter of the forward end of the drive punch;

wherein the shroud and the slidable guide bushing have an overall length, a length of the slidable guide bushing comprising approximately one-third of the overall length of the shroud and guide bushing;

wherein the forward end of the drive punch terminates at a forwardmost end of the front portion of the shroud;

wherein the forward end of the drive punch extends into the channel of the guide bushing when the slidable guide bushing is fully extended from the shroud; and

wherein the forked configuration of the foremost end of the extender member includes a pair of converging edges in a concave configuration.

CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,


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